

# Autism's Lone Wolf

## Simon Baron-Cohen wants to know, Are 'autistic' traits a predictable outcome of new marriage patterns?

BY JUDITH WARNER

Simon Baron-Cohen of the University of Cambridge is taking a broader view of mating habits and their consequences

**I**N 1999, BRIAN HUGHES, A SAN Antonio-based tech entrepreneur, discovered that his 13-year-old son, a brilliant boy who had nonetheless struggled socially and in school, had Asperger's syndrome, a mild form of autism. With this revelation, his parents and teachers were better able to meet his needs, and after attending a public high school for gifted children, he followed in his mother's and father's footsteps by attending MIT and then went on to a successful career as a computer programmer.

The story might have ended there, except that shortly after his son's diagnosis, Hughes became president of the MIT alumni association. Heading a career panel at his 25th reunion, he listened, riveted, as the conversation turned in a curious direction: "The chairman of the MIT Corporation told a story of how he could never hold a job, was always insulting people, and how he'd finally given up and started his own company," he recalls. "The next speaker said that he'd just been diagnosed with Asperger's and was just starting to make sense of his life. Next, a successful engineer started saying, 'I don't think like other people. I think in pictures.' Here we were, a randomly selected sample of MIT alums, and we all were on the spectrum."

In 2003, Hughes wrote an article for the MIT alumni website, raising the question of whether "the 'abnormal' condition known as Asperger's syndrome" could be "remarkably similar to the 'normal' functioning of an engineer's mind," and was contacted by dozens of MIT alumni, many married to alums of similar schools, who also had children on the autism spectrum. Were their kids, he wondered, getting a double dose of some kind of autism-causing genes?

Photo-Illustration by Jim Naughten for TIME





Across the Atlantic, Simon Baron-Cohen, director of the Autism Research Centre at the University of Cambridge, had been asking himself some very similar questions about the families who were visiting his clinic. In the late 1990s, he'd come to believe that a common cognitive profile—a tendency toward what he called systemizing (focusing on systems and how they work), combined with noted deficits in empathy, or the ability to relate to and read others—existed both in people with autism and, to a much lesser extent, in many of their relatives. He'd begun to theorize that this sort of brain type would be common in any population that brought people with very strong math, science and tech skills to cluster together—and to think that if these high systemizers were choosing one another as mates, they might be particularly likely to have autistic children.

Baron-Cohen, a psychologist who happens to be a first cousin of comedian Sacha Baron Cohen's, is the U.K.'s leading autism researcher. His flair for such creative if controversial theories has brought him worldwide renown. At an international autism conference in San Diego in May, he was frequently mobbed by fellow attendees and treated with near universal adulation. ("Still cranking out the books and papers?" one middle-aged American academic groused jealously.) His "assortative-mating theory of autism"—the musings that led him to get in touch with Hughes in the early fall of 2003—is perhaps his most seductive idea.

Assortative mating—or, in common language, the tendency of birds of a feather to flock together—has long been known to play a big role in how people choose their marriage partners. Traditionally, people have assortatively mated, or sorted themselves, by height, socioeconomic standing, religion—and psychiatric profile. People with depression, bipolar disorder, OCD, ADHD, personality disorders and substance-abuse issues are all more likely to marry other people who either have those problems or have family members who do. "People are attracted to each other based on their similarities," says Carol Mathews, a psychiatrist with the UCSF Medical Center who has studied the role of assortative mating in psychiatric disorders. "It's not necessarily a conscious choice."

Baron-Cohen and Hughes approached MIT about surveying its alumni, but the university nixed the project. So Baron-Cohen decided to go ahead with it on his

## Similarities Attract. The assortative-mating theory of autism



**1. In the 1970s and '80s, women began getting math and science degrees and entering related professions in unprecedented numbers; the percentage of female graduates at MIT jumped from 8% to 45%**



**2. Marriage patterns changed.** People started meeting their future spouses at school or work, where chances were greater that they would be like-brained



**3. For the first time, people began sorting themselves, marriage-partner-wise, by similar talents and temperaments**

own. He recently launched a survey on his research center's website that aims to poll a wide range of college graduates—not just engineering and science majors—about their occupations, favorite hobbies, talents (things like perfect pitch, unusual memory and musical ability) and possible mental-health diagnoses and then ask similar questions about their children.

Beyond certain familiar links that he expects he may find between, say, engineer parents and children with speech delays, Baron-Cohen, whose wife is a lawyer, says he's intentionally remaining hypothesis-free about what sorts of associations will come to light. "We are also collecting data on dyslexia and ADHD," he says, "but precisely which types of parents are more at risk for having such a child is exactly what we are wanting to discover."

That willingness to go out on a limb, to take intellectual risks and float ideas that may or may not prove to be entirely true, has made Baron-Cohen, 53, a kind of pop-science hero ("a celebrity," as a camera-wielding fan in San Diego put it) and a controversial figure. He most dramatically wandered into fraught territory in 2003, when he published the book *The Essential Difference*, which called autism a manifestation of an extreme "male brain"—one that's "predominantly hard-wired for understanding and building systems," as opposed to a "female brain," one that's "predominantly hard-wired for empathy"—and ended up on the wrong side of the debate on science and sex differences.

His public comment that autism should be seen as an extreme case of sys-

temizing traits shared by all of us—traits that can have positive aspects, that should be cultivated and not "cured" or "defeated," in the words of activists—has earned him the ire of some parents of autistic children, who complain that he underestimates their families' suffering. Thomas Insel, director of the National Institute of Mental Health in Rockville, Md., says some of the tension between Baron-Cohen and his detractors stems from the fact that they're focusing on very different autistic populations. "Simon has focused on what used to be called high-functioning autism. These people are very different from 7-year-olds with severe language disorders, severe systemic problems," he says. "But he has this enormous popularity among the social-neuroscience community—deservedly. He's really one of the founders of the field. He just seems to get into controversy even when he's not looking for it."

Baron-Cohen's outspokenness—uncharacteristic among research scientists, who are typically cautious and reserved—links him not only to his more famous cousin Sacha but to a family with a lot of out-of-the-box creative thinkers. Simon's brother Ash Baron-Cohen is a movie director, his daughter Kate Baron is a singer-songwriter, and his son Sam Baron is a comic filmmaker. Simon attended Oxford as an undergraduate, majoring in human sciences, and was introduced to the field of autism in the early 1980s when he began work as a teacher in a small program for autistic children. At the time, though, there was no concept of autism as a spectrum disorder that ranges from mild to severe.



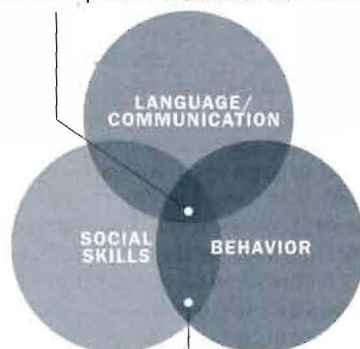


**4.** During the 1990s, the dotcom boom raised the social capital and personal wealth of people with genius-level tech minds and, occasionally, low people-skill levels



**5.** People with Asperger's—or those who have much higher than average levels of autistic traits without any full-blown disorder—are marrying and having children at higher rates than ever before

**AUTISTIC DISORDER** This disorder is currently defined by impairments in social interaction and communication and a limited repertoire of activities and interests



**ASPERGER'S SYNDROME** People with Asperger's are verbally adept but impaired socially and can show restricted and repetitive behaviors

SOURCE: DSM IV-TR

The term *Asperger's* didn't come into widespread use until the 1990s. Autism was so poorly known, Baron-Cohen has said, that when he told people about his work, they frequently misunderstood and thought he said he was teaching "artistic" children.

By the time he received his Ph.D. in psychology at University College London, Baron-Cohen had begun pioneering research into the specific kind of social deficit typical of autistic kids. He showed that such children had difficulty developing a "theory of mind": the ability to perceive that other people have thoughts, perceptions and feelings different from their own. His lab has developed software aimed at teaching social skills to young autistic children (by helping them recognize facial expressions as modeled by animated train engines) and has worked to simplify and disseminate screening tools for autism that can be easily used by family doctors and pediatricians.

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—THOMAS INSEL, DIRECTOR, NATIONAL INSTITUTE OF MENTAL HEALTH

When Baron-Cohen began his work with autistic children in the 1980s, the condition was believed to exist in only 1 out of 2,500 kids. Today 1 in 110 is thought to be on the spectrum. This explosion in diagnoses appears to be linked to much more than just better screening. There are genetic factors at work too, aided, it is believed, by still unknown environmental factors and perhaps—the assortative-mating theory proposes—by social change as well. The same decades that saw a vast increase in the prevalence of autism witnessed an unprecedented movement of women into math and science professions. This meant that future parents with similar talents and temperaments—not just like-minded but like-brained—began getting together to a greater extent than ever before. The dotcom boom raised the social capital of high systemizers enormously, making them more desirable as mates. It is possible, Baron-Cohen has suggested, that people who have Asperger's or who simply have much higher than average levels of autistic traits without any full-blown disorder have been marrying and having children at greater rates than ever before.

Until now, this theory has been largely speculative—and has drawn some criticism. "It makes for a great story, but there's a lot of damage that can be done if parents think that because they have these traits, they've caused their kid's condition," says John Constantino, director of the William Greenleaf Eliot Division of Child and Adolescent Psychiatry at Washington University in St. Louis. With his own research team, Constantino has found

that while strong systemizers sometimes paired up—and that when they did, there was strong reason to believe they were indeed at increased risk of having an autistic child—such couples weren't getting together and having autistic kids at anywhere near the rate that would begin to account for the real rise we've seen in autism numbers over the past few decades.

In June, however, Baron-Cohen's theory breathed new life when he published in the *Journal of Autism and Developmental Disorders* the results of a major survey of more than 62,000 schoolchildren in three regions of the Netherlands, one of which, Eindhoven, is known as the Dutch Silicon Valley. The researchers found that two to four times as many children in Eindhoven had been diagnosed with autism as children in Haarlem and Utrecht, areas of equivalent size and similar socioeconomic profiles that don't have the same concentration of IT workers and engineers.

Baron-Cohen cautions that the Dutch study requires follow-up to rule out factors like the possibility of more diagnostic centers in Eindhoven. He also warns strongly against running too far too fast with the assortative-mating hypothesis or drawing simple conclusions from it about who should or shouldn't marry whom. Nothing bothers him more than the thought that people might change their behavior—as they did in deciding against vaccinating their children after the now discredited physician Andrew Wakefield imputed toxic qualities to the MMR vaccine. "It's very easy to become alarmist and cause panic," he says. "It can be dangerous."

And he finds profoundly offensive the idea that some people shouldn't get together—or that some children shouldn't be born—because of the potential for autism. This feeling runs deep and has highly personal roots. His sister Suzie, Baron-Cohen explained in an uncharacteristically self-revealing online article he wrote for the magazine *Community Care* in 2009, was born with brain damage and significant physical and intellectual limitations. "My relationship with her is among the richest I enjoy," he wrote. "I am glad that she is alive and that she was not screened out of existence before birth and that my parents did not opt to terminate her life." If there's one thing Baron-Cohen embraces, it's difference—not just on the autism spectrum but on the human spectrum. ■

*Warner is the author of We've Got Issues: Children and Parents in the Age of Medication*